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ABSTRACT

A literature review of cooperative vocational education programs at the secondary and postsecondary levels is presented in this information analysis paper. Two different approaches to cooperative education are identified: (1) the capstone approach, in which the student receives one or more years of in-school vocational training prior to the cooperative experience in specialty areas, and (2) the diversified occupations approach, in which much of the vocational training is done on the job, with little or no formal in-school instruction prior to cooperative experience. Other topics discussed include the following: world of work and career decision making; cooperative education and the special needs student; cooperative education in higher education; adult education (cooperative distributive education for disadvantaged young adults, preretirement programs); cost-benefits; and concerns and problems of cooperative education. Summaries suggest that (1) instructional modes will vary according to expected objective, (2) the world of work involvement provides a sound base for aiding students in making realistic career decisions, (3) cooperative vocational education coordinators should have adequate skills and knowledges in dealing with special needs people to insure maximum success, (4) cooperative programs in adult education will be emerging at a greater rate as the lifelong learning concept is accepted by more adults, and (5) the benefits of cooperative education outweigh its cost. (TA)

COOPERATIVE EDUCATION: A REVIEW

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FOREWORD

The Educational Resources Information Center on Career Education (ERIC/CE) is one of sixteen clearinghouses in a nationwide information system that is funded by the National Institute of Education. The scope of work for ERIC/CE includes the fields of adult-continuing, career, and vocational-technical education. One of the functions of the Clearinghouse is to interpret the literature that is related to each of these fields. This paper should be of particular interest to vocational education teachers, administrators, and counselors.

The profession is indebted to Frederick G. Welch for his scholarship in the preparation of this paper. Recognition is also due Carl Lamar, University of Kentucky, and Lorraine Furtado, The Center for Vocational Education, The Ohio State University, for their critical review of the manuscript prior to its final revision and publication. Wesley E. Budke, Vocational-Technical Specialist at the ERIC Clearinghouse on Career Education, supervised the publication's development. Madelon Plaisted and Jo-Ann Cherry coordinated the production of the paper for publication.

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A literature review of cooperative vocational education programs at the secondary and postsecondary levels is presented in this information analysis paper. Two different approaches to cooperative education are identified: (1) the capstone approach, in which the student receives one or more years of inschool vocational training prior to the cooperative experience in specialty areas, and (2) the diversified occupations approach, in which much of the vocational training is done on the job, with little or no formal inschool instruction prior to cooperative experience. Other topics discussed include the following: world of work and career decision making; cooperative education and the special needs student (handicapped, dropouts, academically disadvantaged, gifted, adult, and rural special needs); cooperative education in higher education (teacher training, postsecondary trends); adult education (cooperative distributive education for disadvantaged young adults, preretirement programs); cost-benefits; and concerns and problems of cooperative education. Summaries suggest that (1) instructional modes will vary according to expected objective, (2) the world of work involvement provides a sound base for aiding students in making realistic career decisions, (3) cooperative vocational education coordinators should have adequate skills and knowledges in dealing with special needs people to insure maximum success, (4) cooperative programs in adult education will be emerging at a greater rate as the lifelong learning concept is accepted by more adults, and (5) the benefits of cooperative education outweigh its cost. (TA)

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STATE OF THE ART

Cooperative education has expanded greatly since 1970. This expansion is due, in part, to the increased state and federal funding through vocational education acts, higher education acts, and various manpower (CETA) acts.

A major reason for the growth of cooperative education, and perhaps an even greater reason than funding, is the *world of work* involvement or the *learn by doing* concept that has many educational values which cannot be otherwise achieved. Moore (1976), reporting on work in education, stated:

If work study is indeed education's sleeper, vivid descriptions of successful programs herein--in small schools and large, at colleges and universities in the United States and elsewhere, will do much to awaken it. Part-time work for youngsters is probably the most effective builder of responsibility, dependability, order, initiative, industry and a dozen other sterling values. These are the very qualities that are so rare in today's children, and they are so hard to find among college graduates, not to mention the labor market and professional sanctums. Yet, a true sense of value-worth is seldom developed without the work privilege. (pp. 322-323).

Part-time work has many social and educational values, but to enhance or maximize these values some sort of strategy must be provided. Lewis (1976) in reviewing the literature on work education stated:

- Conventional wisdom on work experience states that:
- (a) experiential learning situations must be perceived by the learner as involving meaningful adult work;
 - (b) students must have clear ideas of what they need

to learn before they can be achievement motivated; (c) students must perceive required learning tasks as tasks they can do successfully and which provide satisfaction and when students do not successfully complete a particular task, they need feedback and encouragement; and (d) students must be provided with an opportunity to practice what they learn. (p. 17).

These, of course, are many of the basic premises of cooperative education. Still another reason for the rapid expansion of cooperative education is its ability to keep abreast of the changing student and labor market needs. Evans (1971) stated:

One of the advantages of cooperative education... is its quick adaptability to change in the labor market demands. By contrast, vocational education which is based on school operated laboratories can be quite out of tune with labor market demands, partly because most vocational teachers are prepared to offer instruction in only one relatively small family of occupations. If the teacher has tenure then the school has little flexibility in dropping an outdated program. Since cooperative work education uses instructors on the job, and since openings for training stations are closely related to opportunities for full-time employment of graduates, the CWE (Cooperative Work Education) is quickly responsive to the changes of the labor market. Moreover, training stations are more easily obtained in fields with the greater labor shortages. The coordinator is therefore more likely to use this station. (pp. 196-197)

With the rapid changes in technology, plus the fluctuations in employment trends, such as the housing and construction industry's drastic drop in employment in the mid 1970s, cooperative education can make the needed adjustments.

Cooperative education has had increasing acceptance in the past decade. An example of this acceptance is a study by Stauber (1974) who, in investigating the feasibility of adding a cooperative education program, found that a vast majority of business and industry representatives, faculty, and students favored cooperative education. Only 3 percent of the faculty and 5 percent of the students surveyed reacted negatively to cooperative education, while 96 percent of industry and business representatives favored the implementation of cooperative education programs in that community.

Success in placing students following graduation has also increased the interest in cooperative education. Studies on placement of cooperative education students suggest a range from 60 to 80 percent in areas of training following completion of the program. These studies include NASSP (1973), Slick-Welch (1974), and Lewis (1975). Placement following graduation is becoming a more important aspect of the educational prospect today than it was in the past. More people are becoming aware of the need for placing students in jobs following graduation.

In a presentation at the 1973 AVA Convention in Atlanta, Venn (1973) stated, "Many guidance-related workers are becoming increasingly involved in job placement functions." Campbell (1973), speaking at the same meeting, strongly supported Venn's statement. He said, "The name of the game is cooperation in job placement programs involving direct services." He went on to elaborate, "Data gathering systems on students, jobs, colleges, partnerships, part-time jobs, and cooperative programs are the component parts." Venn and Campbell believed that guidance personnel were going to have to accept more responsibility for job placement in the future.

Wasil (1974) concluded that the ultimate test for the school's commitment to students was placement. Wasil believed that one of the major goals of schools would be a placement of its students in work situations, both college bound and the vocationally trained. He also discussed the steps needed to establish the school placement service and to set up a cooperative program of business-industry-school.

Another reason for the growth in cooperative education is due to the program coordinator. Evans (1971) stated:

Everyone who has studied the CWE (Cooperative Work Education) program agrees that well-prepared and able coordinators are the key to successful program operation. The ability to plan in advance, initiative, outgoing personality, and organizational skills are basic requirements. It is clear that successful coordinators are rapidly becoming the backbone of a new leadership for all types of vocational education programs at state and local levels. (p. 196)

Cooperative education has had rapid growth in the postsecondary area as well. Many studies and reports show that this rapid growth at the postsecondary level started in the early 1960s, with the number

of programs in postsecondary schools doubling every three years. By the fall of 1977, approximately two thirds of all institutions of higher education had a cooperative education program. These will be discussed in depth later. They are mentioned here only to show the broad acceptance of cooperative education. Cooperative education has not only expanded into higher education, but in areas where people have special needs as well.

The Illinois Board of Vocational Education and Rehabilitation developed a cooperative education curriculum guide for 14 and 15 year old potential dropouts in either the elementary or secondary school grades. The board provides work experience in jobs approved by federal and state labor laws. The guidelines included a discussion of the processes, setting up, and operating, and managing of such programs.

In a text on cooperative education, Stadt and Gooch (1977) stated:

One of the most rapidly growing segments of secondary schools and community college vocational education are programs in correctional institutions. With qualifications, of course, it seems apparent that cooperative education will parallel these developments because of the apparent benefits. (p. 48)

There was a time when people were put in prison to remove them from society. But, with today's emphasis on rehabilitation, correctional institutions' vocational programs seem to be on the upswing. This also will be discussed later in the paper.

Though cooperative education has gained wide acceptance, there still is much room for growth. Stadt and Gooch (1977) said:

It is not surprising to experienced vocational/occupational educators that serious examinations of transition from childhood and schooling to adulthood and economic responsibilities, recommend cooperative education as an alternative for many people. Even though they are largely done by other than vocational/occupational educators, large scale studies are increasingly appreciative of the benefits of cooperative education, apprenticeship, and other work experience programs. Yet, it is sad to note that full-breadth and depth of cooperative education has not been compared with the sweeping recommendations of large scale studies. (p. 28)

One possible area of growth is suggested by Hoyt (1976). He stated:

I am firmly convinced that, somewhere in education, we must begin paying more attention than we have in the past, to work experience opportunities designed to help individuals make more productive use of their leisure time. (p. 21)

Cooperative education started in 1906, with Dean Herman Schneider attempting to make his engineering program more realistic. He established a cooperative education program at the University of Cincinnati. Since that time, the growth has been erratic, to say the least. But perhaps it is a concept whose time has come.

Evans (1971) stated:

As is true of many other educational innovations, cooperative work education has been slow in gaining acceptance. The research results make it plain that in the typical American community, and with a reasonable level of economic activity, CWE is a highly desirable vocational program. It offers instruction of occupations that cannot be touched by any other type of vocational education. (p. 202)

Drawbaugh (1977) summed up the future of cooperative education as follows: "Barring prolonged sluggish economy, the future of cooperative education promises an expansion of both programs and enrollments (p. 28)."

INSTRUCTIONAL MODES

Cooperative vocational education programs can take many different forms and still fit the definition of the 1976 Vocational Education Amendments. The 1968 and 1976 Vocational Education Amendments of sixty-three Vocational Education Acts use the same definition of cooperative education. Simply translated it defines cooperative education as a program or method which utilizes the work environment as part of the educational process. Both the work environment activities and the inschool activities are so planned that they improve students' employability. Throughout this paper many terms will be used such as *cooperative work study*, *cooperative work education*, *cooperative work training*, and *work experience*. The terms

vary from state to state in describing our cooperative vocational education. Generally speaking, there are two different approaches to cooperative education. One such form shall be identified here as the *capstone* approach. In this program, the student receives one or more years of inschool vocational training prior to the cooperative experience in his or her specialty area. This is the rounding out or finishing process.

Another approach has been identified by many different terms, including *interrelated*, *multiarea*, and *diversified occupations*. It will be identified here by the older and more familiar term, *diversified occupations (DO)*. In this approach, much of the vocational training is done on the job, with little or no formal inschool instruction prior to the cooperative experience. Slick-Welch (1974) defined diversified cooperative education as a program that:

combines the cooperative work experience with school programmed related theory. This arrangement permits the offering of vocational programs in schools that do not have the required training facilities. With the DO program there is usually no prior inschool vocational training, thus most of the instruction is done on the job. (p. 2)

There is a growing trend for schools to have more than one approach to cooperative vocational education. Evans (1971) suggested that the size of the community and school determine the possibility of having a capstone or diversified occupations approach, or if, in fact, they may have a combination of capstone and diversified occupations within the school system. In every approach, there seems to be agreement that programs should be planned and structured to get maximum value.

Gutcher (1976) compared the relative values of a structured versus an unstructured approach to cooperative education by utilizing the National Occupational Competency Testing Institute's (NOCTI) tests for pre and post-evaluative experience, and found that a structured approach is more effective in teaching occupational competencies, since students receive occupational knowledge at a higher, more constant level.

One of the basic elements of the structured cooperative education program is the training agreement which spells out the responsibilities of the student, the school, and industry, as well as identifying the job-site activities in which the student will be involved. Within the training agreement is a plan which identifies activities the student will perform on the job.

The Bureau of Occupational and Adult Education (1974), having looked at several training agreements from twelve different states, has encouraged states and/or colleges to give further consideration to the development and utilization of training agreements in the conduct of cooperative vocational programs. The board further stated that the training agreements assure the integrity of the continuing education experience that occurs outside the classroom.

Campbell and Peels (1975) suggested a task and job analysis of the student's training station activities be made. This would become a part of the training plan to determine the related instruction needed for the student to succeed in his or her occupational specialty.

THEORY CLASS

Campbell and Peels (1975) suggested that the related theory be individualized wherever possible and that the instructor

use whatever is available nationally, through private or public suppliers. Three important factors in individualizing a student's training instruction are the student, the job description, and the model training guide. Once the material has been written and developed on an individual basis, it should be made available to both the employer and the student; and when the student's on-the-job evaluation is taking place, the training plan and guide should be looked at completely to be sure that the student is getting evaluated on the related instruction development, as well as the on-the-job activities. (p. 31)

In addressing the related instructional material, Evans (1971) stated:

Cooperative programs have been hampered by the shortage of adequate instruction materials of three basic types: (1) material for the general vocational instruction which applies to all occupations supervised by a particular coordinator; (2) materials directly related to each of those occupations, and (3) material which is suitable for the development of on-the-job trainers. . . very high priority should be given to the development of instruction materials for the three phases of CWE. (p. 201)

Welch-Dixie (1972) found, in a study of 329 cooperative vocational education coordinators in five different states throughout the Eastern United States, that:

In the related theory class, high priority should be given to the teaching of work attitudes, employer-employee work relations, human relations, and job seeking techniques. (p. iii)

In the technical related area, which relates to a specific occupation, Cook (1975) encouraged the use of Interstate Distributive Education Consortium Materials (IDC) and other such available material. He stated that:

teachers become learning managers. The West Virginia diversified occupations programs are proving to be manageable with the employment of a concerned, highly motivated, and competent teacher-coordinator working full-time with a limited number of students. Included as other essentials in this formula are the various aids and resources required for individualized instruction, and highly skilled learning sponsors. (p. 28)

Cook (1975), in discussing West Virginia's approach, suggested two patterns to the related theory class. One is a typical diversified occupations pattern in which the coordinator offers group instruction for those areas common to all students in the class. The rest is done through individualized instruction in the respective occupational specialty areas. In the second approach the coordinator has all the students in the class, but farms out students to other classes for instruction related to the students' occupational choices. Cook (1975) called this second approach a sectional cooperative education program, as opposed to the diversified occupations program. Cook described other approaches in rural communities such as the use of a circuit teacher. The coordinator can be hired to roam between various small school districts to teach the related theory classes. Other approaches are to alternate the instruction. Students work one day and come back to school the next, instead of being out half a day and in school half a day. This is beneficial in areas where long distances are required for traveling. Also, two students can hold the same job.

Cook has suggested that this approach be used during alternate weeks, but he indicated that more than a week away from the school might inhibit educational progress. The one common element is that all cooperative vocational education programs include generally related

approaches as well as specifically related approaches, integrated into on-the-job training.

INSTRUCTIONAL STRATEGIES

There are studies that suggest combining the diversified and capstone approach. Casterline (1973) describes a two-year program:

to serve students with career objectives in the broadcasting industry. The program was aimed to serve a wide variety of broadcasting careers including disc jockeys, production, video taping, audio tapes, sales, etc. The students worked an average of 20 to 22 hours a week for 36 weeks during each year spent in the program. Inschool curriculum included the history of broadcasting, voice usage, broadcasting equipment (not repair), and preparation for the Federal Communications Commission's license test. (p. 194)

Casterline stated that eight Ohio cities are now using this approach. One school was building a radio station to provide more related theory directly related to the job.

Hawke (1974) discussed a program in "The Skyline Center" in Dallas in a high school which provided career development in professional fields and offered students a solid knowledge background, in addition to some firsthand work experience. The school was organized on a cluster basis, with three hours per day spent on one of the twenty-eight career clusters and the remaining time in regular class schedules. The advanced social studies career program served as an example of an academic cluster for students interested in social science careers in areas such as psychology, political science, or social science education. Approximately one hundred tenth to twelfth grade students participated in this two-year program. During the first year the students were introduced to broad-based psychological and sociological concepts. Socialization was introduced during the second year when the specific career was chosen and a self-directed curriculum was designed. Most students elected to do field work and spend one to four days per week in their position. Work placement includes police and various planning departments, creative learning centers, mental health clinics, social welfare agencies, and school or law-related agencies.

In these approaches, the inschool program was of a general vocational nature, with the cooperative experience providing the in-depth training in the student's specialty area. At the Agriculture

Education division meeting during the 1973 AVA Convention, Driggers (1973), in the keynote address, stated that:

an important issue in agriculture education is utilizing the total agricultural resources of the community. (p. 155)

The challenge seems clear. Production in agriculture must continue; specialized programs will be needed in agriculture mechanics, ornamental horticulture, forestry, service and supplies, and other areas; and there will be a need for training programs and diversity of agricultural occupations. (pp. 154-155)

He went on to state that the classroom instruction must be developed around group instruction, which would include the basic elements of a vocational agriculture program and individualized instruction which would deal with the specific training area. He stated that:

30 to 40 percent of the class time should be devoted to individual study to develop the knowledge and understanding needed by each student to perform the jobs and to carry out the responsibilities he will have at his training station. (p. 155)

At the 1973 AVA Convention, Johnson (1973) in a presentation to the Secondary Education Division discussed the role of cooperative education in making a more flexible curriculum in the health occupations area. She stated that:

in most cases only one type of health program can be offered within a school. With the health occupations expanding at a great rate and the need for diverse training in these areas, they use the cooperative education approach to expand their offerings.

This secondary program is a two-year program with the first semester of the first year involving the students in basic health care skills. The second semester is the community classroom in which students are provided opportunities to experience a variety of work situations and to learn various skills through the use of mini-training plans. The second year is a cooperative education experience with the students

being placed in their wide variety of training situations, such as medical and dental offices, veterinary clinics and various departments within hospitals and nursing homes. (p. 112)

The program provided opportunities for preparation in twenty-four different health occupations found within one community. She went on to state:

Programs like this one, or others of a different nature have led further curriculum development, facilitating student preparation in a cluster of health occupations. Many of these programs are in the rural or small high school situation. (p. 112)

Rural communities provide a challenge for cooperative education programs. Thus, other strategies must be considered. One, by the Virginia Polytechnic Institute (1976), developed and tested simulated occupational experiences for distributive education students in rural communities. It involved seven categories of distributive business which included department stores, food stores, variety stores, petroleum, restaurant, motel-hotels, and wholesaling. This worked effectively where there was a lack of training stations in the rural areas. Training plans were developed and worked exceedingly well, but the training plans would also work in the actual cooperative on-the-job experience. It was concluded by this study that all objectives have been met, the plan was transportable, and the simulated model was a valuable alternative to cooperative programs in rural areas.

Cook (1975), in discussing West Virginia's rural approach, suggested the use of an exploration process with students before they are placed on the job to help make certain that they are placed in the job they want. This could help eliminate dissatisfaction with the job after being on it for a short time.

According to this study, 61 percent of the participants were in rural areas, and the U. S. Department of Commerce estimates that by 1980, West Virginia will have the capacity to offer inschool vocational training to only 50 percent of its projected secondary school populations. They have been utilizing the cooperative education approach to reach the rural youth and provide vocational training. Cook suggests using the air force's individual self-instruction material for teaching related instruction.

Cooperative education has and will continue to adopt and adapt new instructional methods to meet society's ever-changing educational

needs. There are those who caution that, in the process, educational goals must be kept in sight. An example of this caution is a report by the National Association of State Supervisors of Distributive Education (1973) which discussed the relationship of cooperative distributive education to other cooperative vocational education programs. The report suggested maintaining effective program standards and urged that the program be organized to develop observable standards and objectives. It further suggested that the Distributive Education Cooperative programs should be based on the Distributive Education taxonomy defined by the Office of Education. It also recommended that a delineation be made between nonpaying cooperative education, the project methods, and true cooperative education for which pay is received.

SUMMARY

Cooperative education can assume many types of instructional modes. The consistency of cooperative education comes from using the work environment to achieve many of its educational goals. The key element demands that the work environment and inschool activities be planned and supervised so that they work toward the student's employability. Instructional modes will vary according to the expected objectives.

WORLD OF WORK AND CAREER DECISION MAKING

Generally speaking, it is assumed that students electing cooperative education or other vocational programs have made a prior career choice and are working towards knowledges and skills which will make them employable. This, of course, is not necessarily the case, for many people change programs or make career changes even after graduation from vocational programs. Lewis et al. (1976), in reviewing the findings of Project Talent, stated:

Project Talent found that only 31.4 percent of male high school students continued to hold the same career plans one year after high school as they did in the twelfth grade. Because so many young people change career plans shortly after high school graduation, Project Talent concluded

that students have been faced with choices that they are not adequately prepared to make. (p. 29)

Kimbrell and Vineyard (1975) stated:

Psychologists tell us that one of the things that most disturb young people is the lack of an occupational identity. That is, too many young people have no picture of themselves some five or ten years in the future. They have no career goals. They don't know where they are going. Young people who know where they are going, occasionally have a goal to pursue. They have a purpose. (p. 1)

Many programs have been developed utilizing the work environment to help people clarify career goals. Though not cooperative education as defined in the 1968 and 1976 Vocational Education Amendments, these programs use the basic cooperative education approach of combining inschool instruction with work observation/experience to help students reach career decisions.

In evaluating one such employer-based program, Herron (1973), in discussing a program where students combined independent study, seminars, counseling, enrichment activities, and learning experiences in industry, found:

In tests of student growth, the student retained about the same basic skills and self-concepts, but reached competency level in a number of survival skills and improved their writing skills. Seniors reached a high level of career maturity. As judged by employers, students improved in their work performance, adherence to work schedules, acceptance of responsibilities, interest and enthusiasm for work, judgment, and ability to work with others, and ability to learn through work experience. (abstract)

Spotts (1974), in evaluating the Far West Lab School Experience-Based Career Education Program, concluded that there was favorable student and parent reaction to the program. Spotts reports success in achieving most of the Far West School's goals in career development and basic skill and interpersonal skill development.

Another career decision-making program in the Philadelphia area, Research for Better Schools, Inc., (1974); one of four employer-based education programs funded by the National Institute of Education during the fiscal year 1974, concluded that students, parents, employers, and public school representatives reacted positively to the program as an educational contribution.

The Northwest Regional Educational Laboratory (1974) evaluated experience-based career education programs in which students had divided their time equally between a learning center and various employers in community sites. Their final report was that the results indicated the students showed a statistical significant gain in reading, mathematics, and study skills, but no significant gain in language mechanics. Against a psycho-social maturity scale, students showed positive gains in areas of self-reliance, work, communication, and trust.

There has been much reported in the literature on various alternative educational programs developed to utilize the work environment as an integral part of the learning process. Most of the results are positive in terms of assisting students in making career choices. But, generally, these programs have shown little statistical difference in the total education of the child. There seems to be some short-term results that may be classified as the "halo effect." That is, being a new program, the students are closely studied. This extra attention may provide the positive results rather than the process.

In the literature, several programs have been described in which seventh, eighth, and ninth grade students were released from school for short periods of time to observe and to be rotated through various job activities. Generally, these are for no pay and range from a few hours in one job site, to a maximum of approximately ten weeks. The results from this approach have been very positive in helping young people in career clarification. Again, these programs have not been in existence long enough to provide any longitudinal data to show long-term effects. Another benefit from this approach seems to be that of helping potential dropouts stay in school.

Traditional cooperative vocational education programs have had some positive effects on student career decision-making processes. In the summary statement in the chapter on "The Effects of Work Experience on Career Development," Lewis et al. (1976), stated:

On balance, it appears that holding a school-supervised job, especially in a co-op program, is associated with (a) student reports of having

had experience that helped them to make their vocational choice; (b) choosing a vocational program in order to prepare for employment; (c) holding jobs related to school training; (d) employment, rather than continued education after graduation, along with employer-sponsored job training; and (e) more knowledge about jobs before graduation. (p. 126)

The National Association of Secondary School Principals (1973) looked at fifty different cooperative education programs throughout the country. Their findings were basic to this generalization in that:

Cooperative education programs are more likely than any other type to provide students with job-related instruction in school, have follow-up programs for graduates, provide job placement services, and have a high rate of job-related placements, help students in deciding on an occupation, and provide students with jobs that fit into their career plans, have a high level of responsibility, and afford a high degree of satisfaction. (p. 2)

Yet, "all that glitters is not gold," for Lewis et al. (1976) suggested that:

Educators and administrators, and eventually school students, unanimously called for expansion of cooperative programs. . . In fact, many researchers have found that random work experience does not necessarily result in better understanding of the world of work. A partial explanation for this may be that these programs are designed for school dropouts. These students often work at jobs in which they have little interest and which give them little opportunity to express their intelligence or skill. (p. 17)

Too often, we see cooperative education as the cure-all or panacea for all educational problems. It is not. It can contribute to many educational, social, and career decision-making processes, but the program must be directed to fit specific objectives.

SUMMARY

There seems to be mounting evidence suggesting that students be exposed to the world of work--a system used in career decision making. This exposure can be done through a regular cooperative vocational education program, or by career model, as discussed earlier in this chapter. The key element here is the student's involvement in the world of work. This world of work involvement provides a sound base for aiding students in making a more realistic career decision.

COOPERATIVE EDUCATION AND THE SPECIAL NEEDS STUDENT

At the AVA Convention of 1973, Conaway, addressing Cooperative Programs for the Handicapped in the State of Maryland, stated:

For the disadvantaged and handicapped student, the classroom and the world beyond is frequently an alien place. Shackled by their marginal capabilities, and frequently bound by their environment, these students become lost and overcome by a world in which they do not fit, have no part, and little understand. For these students and others like them, school has a negative image and their discontent becomes part of the basic patterns: high absenteeism, suspension, and grade repetition.
(p. 126)

Cooperative education has in the past and will continue in the future to work with various types of special needs students. Cooperative education can be a viable approach. Mitchell (1977), stated:

Within reasonable limits and in accord with good judgment, grade average should not be the most important consideration in deciding on the qualifications of the student applying for a cooperative education program. Although "A" and "B" students may be ideal, their chances of success may not be so great as the chances of those with less academic ability,

but with more desirable characteristic traits and ambitions. Students with "C" and "D" averages often present chances for success and even individuals with failing averages should not be eliminated from a full investigation for the cause of failure. (p. 50)

Stadt and Gooch (1977) discussed the part cooperative education programs play in dealing with special needs students, minorities, and women. They stated:

This is in no small part because federal legislation of state plans for vocational-technical education have provided for special programing for special kinds of people. With far from sound empirical evidence, but based upon the principle that methodologies which work with special needs clients tend to work with all others, the authors submit that cooperative education has a long history of, and a bright future for, launching individuals of any description on wholesome careers which involve various balances of educational preparation, work experience, and advancement. (p. 27)

Also, at the postsecondary level, the literature has indicated positive results in dealing with special needs people. Buchanan and Sunnucks (1975) conducted research in various cooperative education programs at the postsecondary level to determine the participation of enrollment patterns for women, veterans, minority, and handicapped students. They explored programs in 600 colleges and found (1) cooperative education programs reported that they were experiencing an increase in minority and women student participation; (2) increasing numbers of women, blacks, and other minority students were entering nontraditional curricula, such as engineering and other technical fields; (3) of the total head count enrollment reported by 150 cooperative education programs, 26 percent were women, .08 percent were handicapped, 13 percent were minorities, and 15 percent were male students of minority status.

Sheltered work experience programs have been utilized successfully. Dickson (1973) reported on a project dealing with socioeconomically disadvantaged and other dropout-prone students. It utilized a student counseling service to appraise interest aptitudes and career awareness information. This was followed by a sheltered work experience vocational program, with the vocational counseling service to assist the students in developing entry level skills or commensurate occupations. Sheltered experience was offered within the school setting

itself, for the most part. This inschool training was conducted around five areas: groundskeeping and landscaping, janitorial or custodial, domestic, food service, and maintenance services for buildings and equipment. The program centered around work experiences at work stations provided by the school system.

DROPOUTS

Not all programs are considered failures if a student drops out before graduation from high school. An example of this is provided by McLawhorn (1975) from a Florida program for educationally disadvantaged and/or dropouts. A model program included occupational orientation, occupational preparation, and on-the-job training experience. The program was designed to serve as a terminal education point for 16 year old students. Though only one year old, the first year of the project was highly successful.

Another approach dealing with the potential dropouts is the "Minnesota Story." Spotts (1975) described the program as dealing with 16 year old students and older, tenth through twelfth grades. The candidates were students with discipline and behavioral problems, absenteeism, total lack of interest in school, incomplete or "F" grades, financial or social problems, and potential dropouts.

These students' classes were scheduled so they would have a minimum of two hours per day on the job, and a daily 55-minute occupational-related theory class. Spotts stated:

So, it is important to make the students understand that the purpose of the job is not only to teach them employable skills, but to help them discover what kinds of occupations are suitable for them, and just as important, what kinds are unsuitable. It doesn't take long for a student to recognize that a job, such as dishwashing is really a deadend, and the way out or way up is more education and training. They emphasize in this approach; the changing of attitudes and behavioral patterns and problems through this cooperative education approach. Once these people have reached acceptable attitudes and behaviors, they are then transferred to regular cooperative education programs or into regular vocational programs. Yet, some are kept in the program the full two years until they graduate because the students feel they have a coordinator who cares, which seems to be as important as any other element in the program. (pp. 18-19)

The results of this program suggest that the number of students who complete the program and then transfer into regular cooperative education programs or go back into regular school is surprisingly high. Most of the coordinators in this study claimed that 70 percent of the students stayed in school and graduated.

Despard and McCadden (1975) discussed working with potential dropouts in a cooperative education program in Anoka, Minnesota, which provided a unique supplement to the work experience program for high school students. The technical institute provided not only vocational skill training, but had a Work Adjustment Center designed to help people with personalities or attitudes that would, or might lead to, job loss or loss of a cooperative training activity. The uniqueness of this program was an alternate approach when a youngster got fired--take that person back and provide him or her with vocational and job adjustment skills before he or she is placed in another job.

The National Association of Secondary School Principals (1973), in reviewing and evaluating a random sample of fifty school-supervised work experience programs, found successful approaches in dealing with special needs people. They stated:

Dropout prevention programs appear to be successful when viewed in terms of their limited objectives to keep the students in school and providing them with financial assistance. While many such programs had additional goals such as improving disadvantaged youngsters' attitudes toward school and work, practically none attempts to offer students related classwork or intensive vocational training. (p. 3)

The National Association of Secondary School Principals (1973), also found employer ratings of the individual students had significant impact on the attitudes of both the students and the employers. For the students, a higher rating by the employers was associated with greater job satisfaction; for the employers, a higher average rating of an employer's students was associated with a higher rating of the overall program quality. They suggested:

Careful matching of the students to the jobs which meet their career objectives, so that they are likely to succeed and be highly rated by their employers, therefore appears to be one of the most

crucial tasks of the work education programs, in terms of both student satisfaction and employer acceptance. (p. 3)

ACADEMICALLY DISADVANTAGED

Maryland's cooperative education program for special needs students is described by Conaway (1973) as a day divided equally between classroom instruction and actual on-the-job activities in the community. Conaway stated that the primary difference between this work experience and others was the nature of the classroom instruction itself.

Classes were small to insure individual attention, and subjects were geared toward the world of work and everyday living experiences. Academic instruction was modified, or presented in a more practical approach relevant to the student's needs. Conaway cited the following as important ingredients to make the program successful: community survey, advisory committees with members of the working community and social agencies involved, development of an inschool curriculum that would adapt to these people, and special training of staff.

She stated:

the emphasis is on the functional and practical geared to develop occupational competency and correlated with the specific field for which on-the-job training is provided. . . The success of the program is being recorded as comparisons with previous years are made in the areas of absenteeism, grades, suspensions, reporting to the office, and student behavior. As these students leave the program and complete their high school education, they are in occupations paying better than minimum wage on a full-time basis. . . The real success of the program is written on the faces and in the attitudes of the students as they find their responsible and self-sufficient niche in the fabric of our society. (p. 127)

Wells (1972) described a business education program for low ability students in California. She said that even though low ability employees were not classified as leaders by their supervisors, they were usually considered acceptable by their fellow employees. Supervisors made many positive remarks about personality of the low ability

employee, with cooperation being one of the most frequently noted characteristics.

Office managers interviewed made six strong recommendations for any program dealing with less than average students and placed emphasis on inschool vocational activities such as typing, basic reading and writing skills, office machines, keypunch operation skills, development of interpersonal relationships, personal grooming, and good work habits. They placed particular emphasis on social and business knowledge and stressed cooperative education in developing additional employability through experiences. Wells stressed that low ability students could learn--it would just take longer for them to grasp materials, and they should be located in occupations in which they could succeed.

Twelve presenters at the 1972 AVA Convention (1972) speaking on Special and Related Programs discussed cooperative work training (CWT) in the Chicago Public Schools for the nontechnical and cooperative education students. Generally, the CWT students have social and/or academic handicaps which prevent them from succeeding in regular academic or vocational programs. The program is for students at least 16 years old, with preference given to eleventh and twelfth graders.

The twelve presenters stated:

Through programs such as cooperative work training and work experience career exploration, which include the drop-outs and educationally disadvantaged, we are now serving many of the so-called non-technical cooperative education students. Through these new approaches, many students are employed who were heretofore considered unemployable. By using the cooperative educational approach for younger students, many students who were potential drop-outs, or were drop-outs, are completing high school, and in some cases, post-secondary programs. (pp. 116-117)

Pestle (1976) reported on a study that dealt with disadvantaged cooperative home economics students in Tulsa. The students expressed increased self-confidence and satisfaction with supervision, and employers saw a gain in students' ability for the job, acceptance for supervision, and the ability to work with the public.

SHORT-TERM PROGRAMS

There are many short-term or summer programs utilizing the work environment to help special-needs people stay in school. McDaniel (1973) discussed a five-year development of a cooperative summer and school year program between the Neighborhood Youth Corps (NYC) and a community college. This project was sponsored by the Manpower Administration. This was an innovative program that in 1972 had 10,000 Neighborhood Youth Corps youths participating in the program. The Neighborhood Youth Corps recruited and selected eligible poor youths, paid them for their participation in work and other program services, arranged for transportation to these services, and worked jointly with the community college in planning a work/study program and related counseling for the enrollees. The community college admitted Neighborhood Youth Corps enrollees to appropriate credit classes, identified meaningful job sites for enrollees, supervised their work, provided tutoring, counseling and recreation and cultural activities, and held the course credits earned in escrow or transmitted them back to the high school if needed. This was a successful program utilizing the world of work as a motivator in keeping young people in school and helping them work toward upward educational mobility.

LaSala and Picarelli (1975) described a six-week work experience and counseling program designed for minimal achievement students. The project, known as the Summer Minimal Achiever Rehabilitation Program (SMART), Nassau County, New York, was adopted to motivate minimal achieving students towards a more positive directed goal. One hundred forty-two students were accepted into the six-week program which was designed to provide counseling, leadership and work experience to help students develop an awareness of occupational education and its values. It was also designed to motivate students in participating in community projects and to motivate minimal achievers in seeking higher goals of fulfillment. According to the authors, the program was highly effective, as evidenced by the return to school in September of all eligible students.

GIFTED

Cooperative education programs have been developed for another special needs group, the gifted student. This is a student with an I.Q. of about 140. This, in most schools, puts the student in a different minority classification. Treloar (1976) discussed the program in Newark, New Jersey, designed for the gifted and talented innercity high school student. The program offered an eleven-month

school year, five major subjects, and used the resources of industry and business to prepare students for a college education. The student placement was in professional areas, exposing the students to tentative chosen careers before college, thus eliminating the chance of studying for an unacceptable occupation.

ADULT SPECIAL NEEDS

There are programs for special-needs adults as well. LeConche (1975) described a program aimed at serving young adults in Hartford, Connecticut, who left school before completing the twelfth grade and who were unable to obtain employment. This was cooperative education for students, neither in secondary nor postsecondary formal school programs. This highly successful approach will be discussed later in the text, in the adult education section.

Another special-needs group is in the nation's correctional institutions. Wade (1973), in a presentation at the 1973 AVA Convention, stated:

Vocational programs in penal institutions teach such skills as graphic arts, carpentry, welding, sheet metal, clerical skills, computer programming, electrical trades, etc. Some prisons have work release programs. Prison programs often include counseling, assessment, and prevocational guidance.

But, upon their release, ex-prisoners often find it hard to obtain employment. Many employers are reluctant to hire them. In addition, there are specific legal barriers for their employment. We must try to involve the community in this program; to get business organizations to think in terms of using ex-offenders as a resource; and to supply supportive services and job placement assistance to the ex-offender. (p. 165)

Dolnick (1973), also at the 1973 AVA Convention, described a highly successful distributive education program for incarcerated youth. He went on to say that juvenile delinquency was not rare--since 11 percent of all youths were referred to juvenile court before their eighteenth birthday. The program he described:

was the first of its kind for distributive education in the nation. The broad-based objectives of the program are: (1) to furnish job acquisition skills and occupational information necessary to function in the world of work, (2) to provide paid work experience in an occupation area where labor demands exist and future growth is anticipated, (3) to provide training stations with positive environments in which modeling can take place, (4) to correlate on-the-job training with classroom education to provide meaningful instruction, and (5) to offer program continuity upon parole.

In designing the program, we tried to be careful not to fall prey to any of the traps that screened out participants and turned off students to school. Some of the unique elements of the program are its ungraded structure, small group approach, and an early age cooperative education experience. There is an on-going group counseling program and the auxiliary services of the institution such as medical, transportation, and financial available. The program served 156 students in the total cooperative education parts since it started in 1968, with 63.6 percent successfully completing the program. (p. 193)

With the national recidivism rate for first offenders averaging about 50 to 60 percent, this was an impressive statistic.

RURAL SPECIAL NEEDS

Many people think of special-needs people, especially disadvantaged and handicapped, as being innercity centered. But, rural people can also suffer from lack of education and opportunity. Isaac (1972) described the Mississippi Valley State College (MVSC) approach to dealing with poor people from rural environments. MVSC participated in an upwardbound program which attempted to get the students from low income families motivated and conditioned to college before they left high school. They had cooperative education programs, which permitted students enrolled in accounting, automobile mechanics, biology, brick masonry, building construction, business administration, business education, cabinet-making, chemistry, electronics, machine shop, printing, science

education, and secretarial science, to be employed for specific periods of off-campus work as a required part of their academic program. The MVSC approved the granting of credit to these participating students.

SUMMARY

Cooperative education has played an important role in working with special needs, and will continue in the future. Though we have had success, Sievert and Wircenski (1976) stated:

Vocational technical education programs for the disadvantaged and handicapped have had limited success, both in Indiana and across the nation. This has been partially caused by the vocational teachers' and cooperative education coordinators' lack of knowledge regarding how to work with them as a person. (pp. 41-42)

Cooperative vocational education coordinators should have adequate skills and knowledge in dealing with special needs people to insure maximum success.

With the implication of the 1976 Vocational Education Amendments, there will be still a greater stress on meeting the vocational needs of disadvantaged or handicapped students. The work place seems to be an excellent equalizer. Employers rarely use the term *disadvantaged*, *handicapped*, *slow learner*, or other type of educational jargon when describing people in their employ. They usually describe employees as excellent, good, or unemployed. The handicapped or retarded person might be doing an excellent job in a task that may be considered menial to others, yet is exceedingly important to the employer.

COOPERATIVE EDUCATION IN HIGHER EDUCATION

Cooperative education programs in the postsecondary area have had rapid expansion. Perlloff and Sussna (1977) reported:

The most recent tabulation of a National Commission for Cooperative Education lists 855 operational programs, with an additional 175 at the planning or

soon-to-be implemented stage. These figures can be compared with a year as relatively recent as 1961, when there were only 65 programs nationally, representing a growth in the 15 years of more than twelve hundred percent. . . much of the growth in cooperative programs is taking place in two-year community colleges, rather than within baccalaureate programs. This changed emphasis from four- to two-year colleges entails a major change in the sorts of jobs which are suitable for cooperative programs. (Introduction)

The literature on cooperative education programs in higher education suggests similar results as found in the secondary programs. Coast Community College (1973), in a final report for an exemplary program in vocational cooperative education for community colleges developed through a three-year consortium effort in five California community colleges, reported many areas of success.

This national demonstration model shows that community college cooperative education (classroom study and off-campus paid work experience) is an effective solution to many problems of student motivation, educational relevance, scholastic achievement, and retention in college, and helps to bridge the gap between school and employment. (Abstract)

This study is typical of the studies presented throughout the literature on postsecondary cooperative education. Again, the results are positive, yet similar to those results in secondary programs.

The community college system is now capitalizing on the cooperative education approach heretofore utilized in the secondary program. This is the system in which students work half a day and go to school half a day. In higher education, this is called the parallel approach. This differs from the alternating approach where a student goes out for a term or for a series of weeks or months to work full-time and then returns to school full-time for a similar period of time. Most four-year colleges and universities utilize the alternating approach. With the community college concept community-based, colleges have the same accessibility to employers, communications, and travel as a local school system. Thus, they can utilize this parallel approach to enhance the school educational opportunities. They are utilizing this approach to support or reinforce the educational activities in the school, as well as to offer technical programs that could not be offered in the schools because of the expense of machinery and equipment.

Colleges and universities are presently being faced with the same problems that secondary schools have faced over the years, and that is that high school graduation or a college education no longer guarantees one a job. A person must be prepared for a possibly difficult transition from school to work.

TEACHER TRAINING

An emerging area of postsecondary education is the use of the cooperative education programs to upgrade teachers. The Sexton (1975) report described the implementation of a university-based cooperative education program arranged with business and industry, designed to allow occupational education teachers the opportunity to upgrade their skills and to gain work experience.

This upgrading approach seems to be working well. The University of Georgia (1971) reported a planned occupational experience for employed vocational teachers. The university provided a short-term work experience program in business which was individualized and planned. Most of the teachers in this program reported they had made or planned changes in the classroom curriculum as a result of the project. The teachers were enthusiastic and reported that their objectives had been fully met.

This approach is being utilized to provide preservice teacher training. Holodick and Vincent (1977) described the approach in which students were admitted to the university with a learning period completed, either by a community college vocational program or a secondary area vocational-technical school. Through a cooperative arrangement, students with training plans were placed in a training station and supervised; they received on-the-job training in their occupational specialty area and received pay and college credit. At the end of this five-year college experience, they have had two years of occupational preparation and the traditional four years of academic preparation. This allowed them to take, and pass in most cases, the Occupational Competency Examination required to teach vocational subjects in Pennsylvania and at the same time complete a baccalaureate degree in vocational-industrial education.

POSTSECONDARY TRENDS

Brown and Wilson (1976), reporting on a yearly survey conducted in both junior and four-year institutions, found some interesting trends taking place in this year's survey. There was a continuing trend

toward awarding credits for cooperative work experience at the collegiate level. Secondly, the rate of program expansion had slowed considerably. This rate reflected fewer new programs in 1976 and an increased incidence of program failure. The principal reason for program failure was lack of financial resources. The third trend was the increase of student participation by an estimated 20 percent. This suggested that the existing programs were attracting more students. Another major program trend was the increasing number of programs offering degree granting credit and the increasing number of programs utilizing a combination of operation modes. Still another trend was that cooperative education for students in graduate programs was becoming more prevalent.

When Brown and Wilson asked program coordinators how many jobs were left unfilled due to lack of students, they found there were 5,639 jobs vacant during 1976 because there were no students to fill them. In asking these people how many students interested in cooperative placement were not placed due to lack of jobs, they found that 29,814 were not placed. The authors suggested this indicated that a major road block to expansion of cooperative education was the shortage of suitable employment opportunities and not a lack of interest by students.

ADULT EDUCATION

Often adult education is considered a part of postsecondary or higher education, but this paper will attempt to emphasize the role that cooperative education can play in adult education by addressing the issue under a separate heading. The literature seems to suggest much growth in cooperative adult education in the future as *life-long learning* becomes a reality for more and more people. Ball (1972) summarized the needs of older workers as:

Adults do not like competitive class situations. They do not like to be compared with others; neither do they respond well to disciplinary evaluative settings. They have a great deal of training and experience to offer and a lot of adult dignity to lose if they feel they are failing. . . . Many adults come to their classrooms with a great deal of insecurity and anxiety about their ability to succeed in a new learning situation. (p. 314)

An AVA booklet on Adult Distributive Education (1972) stressed that adults are quick to reject instructional materials and learning activities which appear to have little application in the real business world. They generally require experiences that are conducive to immediate practical application. It suggests an employer-client analysis.

Adult distributive education is a program for occupational instruction for which the business community is a primary benefactor. If the program is meeting employer needs of the community, it will receive continued encouragement and support from the community members. It is important, therefore, to analyze the employer-client of the program graduate to determine such factors as the reduction of training costs, the reduction of loss attributed to employee error, increase in sales, and their recommendation for program improvement. (p. 28)

The booklet described distributive education's growth in adult education.

Enrollment of adult distributive education has increased substantially during the past eight years, as has the number of course offerings and supplementary instruction. Currently, preparatory and supplementary instruction classes for adults constitute approximately 55 percent of all distributive education enrollments. The major portion of adult enrollments, however, continue to be a refresher, updating, or developmental class for persons already employed. Course offerings are being expanded in food distribution, apparel and accessories, food service, hotel and lodging, real estate, banking and finance, insurance and other major commodity lines within the marketing distribution classifications. (p. 9)

Forest (1970), in discussing older adults, concluded there is a need for experiential learning, which should include cooperative vocational programs, and stressed the importance of assessing on-the-job activities. He emphasized the growing number of adults in postsecondary education. He stated:

among them is the dramatic increase in the number of older students in post-secondary enrollment.

Of the 9.9 million post-secondary students enrolled last fall, one million were 35 years of age or older, and the trend is still growing. (p. 40)

He further stated:

Study after study has indicated that adults interested in educational programs leading toward a type of certificate, license, or degree, are most attracted to programs that: (1) grant credit or recognition for learning gained through life and work experience, and (2) offer opportunities to learn through independent study, internship, community seminars, and travel. . . There is little question that post-secondary institutions, hoping to attract substantial numbers of adult students, will have to credit previous experiential learning and reduce their emphasis on the traditional day-time scheduling of courses. (p. 40)

Mitchell (1977) suggested that cooperative vocational education coordinators actively seek employed adults and urge them to enter programs to improve performance in their occupation. One of the major issues he suggested was that incentives be provided by employers to encourage the employees to take part-time evening courses and to improve their on-the-job proficiency. He said:

The fact that teacher-coordinators are in daily contact with employers, places them in an excellent position to examine, first-hand, the interests and needs of pre-employment or extension training for potential employees of those presently employed. Such an intimate contact may include opportunities to make pertinent suggestions for needs, for training which the employer may not have recognized. (p. 343)

The cooperative approach can accommodate a wide variety of adult needs, such as in Washington State. Hagenau (1975) described a mid-management program:

It is designed to develop fundamental skills, competencies, knowledges, attitudes, and experiences, which will enable graduates to function

in positions as supervisors, department and division heads, and other post entry level positions in business, industry, institutions, and government. Essential characteristics of the mid-management program are divided into four categories: (1) the development of a broad-based or background knowledge and practices pertaining to mid-management; (2) the development of personal attributes necessary for successful employment; (3) the development of management skills; and (4) the development of specialized technical skills. (Abstract)

Adults who are in deadend jobs can be upgraded through cooperative education approaches. For the most part, people in low level jobs are disadvantaged adults. Cornett and Elias (1972) stressed:

Nothing will lead to frustration in disadvantaged adults more quickly than preparing themselves for jobs only to find a deadend or, even worse, a job that has become obsolete. Vocational educators have the responsibility of obtaining industry's thinking towards long-range manpower projections and the creation of broad career jobs. (p. 299)

At the center of any disadvantaged adult's problem is the lack of adequate employment which may be due to a variety of reasons. Lack of basic job skills and/or basic acceptable attitudes toward work are common. (p. 300)

Community involvement and support cannot be overemphasized. The disadvantaged adult is a community problem. Community leaders from all categories have the responsibility of bringing the resources of the community to bear on the problem. This kind of commitment and effort is necessary to begin to make inroads on the problem. . . . All learning goals must be pragmatic in terms of being of use on the job. Learners must consistently be reinforced and led to see the value and application of what they are doing. The concept used in the 70,001 programs which has been proven so successfully in distributive education, should be tried in other programs. The concept reverses the normal vocational education process.

Instead of preparing learners for a job, the job is obtained first. Then the job is used as a vehicle in stimulating the worker in studying to learn to improve himself and to begin to progress on a career ladder. (p. 303)

PROJECT 70,001

McGorman (1970), in describing Project 70,001, stated, "Merchants get behind DE Projects designed to rehabilitate ghetto dropouts" (pp. 60-61). Employers pay the usual beginning wage and give them individual attention only as long as they are unemployable and remain in the educational program. They are given raises and promotions based on excellence in the classroom and on the job. They are given high school credit for the on-the-job training, as well as all the related theory and additional school courses they take during the course of the program. These people are presently working toward a high school diploma or a high school equivalency in the state of Delaware. They receive the minimum of 180 hours of on-the-job related instruction in merchandising as well as on-the-job supervision.

LeConche (1975) described a Connecticut Project 70,001 as an exemplary program establishing cooperative distributive education for disadvantaged young adults. This project provided full-time instruction, including on-the-job work experiences, related programs, and youth activities as a part of the classroom instruction and provided an avenue for acquiring the Connecticut state efficiency diploma. It was aimed at serving young adults in Hartford who had left school before completing the twelfth grade. It was innovative; unlike regular programs of education and training, it trained a person in a job rather than for a job. Students were employed full-time and the primary emphasis was upon acquisition, retention, and advancement of a wage earning career. He stated:

Through a cooperative arrangement with local merchants, disadvantaged youth are placed and supervised in a job by a qualified coordinator upon acceptance into the program. They retain their jobs as long as they satisfactorily participate in the program (or until the student, coordinator, and employer mutually agree that there is no further benefit to be accrued from continued participation). They receive increases in wages and promotions periodically as they

successfully meet specific individual performance objectives developed cooperatively by the employer and the coordinator in consultation with the student. (p. 1)

However, one of the major aims of the program is to establish a pattern of success to replace the cycle of failure that has so often characterized a typical dropout. We do this by training the enrollees in a job that will ultimately lead to promotion and/or opportunities for advancement, thus bringing about attitudinal changes that will break the failure syndrome familiar to our enrollees. (p. 4)

The Delaware and Connecticut Project 70,001 programs were designed to provide services for high school dropouts between the ages of sixteen and twenty-two. Yet, other programs have been designed around this concept that fits adults of all ages to obtain a high school diploma, as well as working toward the associate or advanced degree.

Granger et al. (1975) see a future in cooperative adult education. They hope to spark new conversations concerning cooperative adult education.

We believe the future is bright in this area, but there are pitfalls and concerns which will need to be addressed before the potential can be met. (p. 10)

In discussing the scope of cooperative education for adults, Granger et al. said:

The development of joint or cooperative educational programs for adults, not in a traditional high school or college degree framework, covers a wide range of learning opportunities. Educational learning is increasingly more often taking place outside the traditional classroom where the individual works, plays, lives, recreates, and worships. (p. 10)

They stressed that there were pitfalls to be avoided.

As one man said three years following his involvement in a cooperative program, "I'm still on the same job, nothing has happened." (p. 17)

The disappointment was obvious. This man expected a better job because he had more education. In discussing the union's role, Granger and others suggested that labor organizations had as their goal the betterment of their members' working conditions. Thus, priorities were mainly in the area of job safety, wages, job security, and apprenticeship training. Other efforts such as cooperative adult programs could only be given time and energy so long as the first parts were met.

PRERETIREMENT PROGRAMS

Granger et al. (1975) stated that another activity becoming more popular within industry was cooperative preretirement programs. These programs addressed the issues of preparing the individual for retirement after twenty or thirty years of continuous employment within industry or business. Spouses and children may be included in the preretirement program.

On the subject of preretirement, Cokinda (1973) stated:

Retirement is one of the most clear-cut of career changes, and probably the most unsettling of all. Yet, it is one for which most workers are ill prepared. . . Morally, there is no reason why it shouldn't be just as important to help people make the transition from active worker to retiree as it is to help youth make the transition from school to job. (p. 58)

Cokinda discussed the prospects beginning at age forty-five to fifty for planning activities with employers and retirees so they could work toward productive retirement years. He reported:

The findings from the study of automobile workers, coupled with my personal experience in industrial and university preretirement programs, have convinced me that the programs offered on the eve of retirement are often too little and too late. Financial planning, for example, might require 10 or more years to bring savings up to the employees' retirement needs. (p. 59)

SUMMARY

Cooperative programs in adult education will be emerging at a greater rate especially as the life-long learning concept is accepted by more adults. One of the major problem areas in society today is the high rate of unemployment, particularly among minorities and young people. One possible way to alleviate this problem is the utilization of more cooperative education programs for the unemployed adult. For the most part, employers or unions will not sanction a cooperative education program unless there is a need for trained personnel in that particular industry.

COST-BENEFITS

This section will look at the costs of cooperative education approach programs, try to evaluate the effectiveness or benefits, and attempt to determine if the costs outweigh the benefits. This is not an easy task. Lewis et al. (1976) stated:

The terms "cost-effectiveness" and "work experience" in the title of this report imply that this study will answer the question: "Do the results of school-supervised work experience programs justify their cost?" It could be stated at the very beginning that the answer to this question cannot be a simple "Yes" or "No." The results that were obtained cover a variety of outcomes that could be influenced by work experience and they are not all clearly positive or negative. (p. 1).

One of the reasons why one cannot look at cost-benefit factors in terms of dollars and cents alone is summarized in a report by Drawbough (1977):

It is not technology or capital but an adequate supply of competent employees that is the decisive factor in production and marketing in the established corporation. (p. 29)

He said that industrial systems rely heavily on the state for trained workers and that industry and business put a sizeable amount of capital

into their own training programs. It was estimated that the total expenditure for training development ranged from twenty to twenty-five billion dollars annually. He provided support for a comment that we were approaching the time when industry would be spending as much money to educate their employees as the country spends in educating its youth. He made many strong recommendations, including how to get involved and ways in which we could work together to articulate the training programs. One of them was to expand our cooperative education programs to include more students in more businesses.

Skill development is not the only aspect to consider on the benefit side in cost-factor analysis. Wenig and Wolansky (1972), in their report, found that industry was mostly concerned about the increasing number of people-related problems. Also, to get a true picture of cost-benefits of cooperative education these costs and benefits must be compared with those in other educational programs. This section will look in depth at studies making such comparisons. There are many factors to consider before a "yes" or "no" answer can be decided.

COST

There is little doubt that there are costs attributed to vocational education programs. The following studies will provide evidence of this cost in terms of dollars and cents as well as other factors. Molnar (1973) and others found a dollar and cent relationship in a study which compared vocational education with a cooperative component (capstone) with vocational programs without a cooperative component. The study data were from twelve different school districts from three states; Minnesota, North Carolina, and Ohio, for the years 1969-1970 and 1970-1971. Their findings were:

based on the cost data collected, we used two cost measures for analysis purposes--annual cost per student and actual cost per student hour. The annual cost per student measure showed a differential of about \$190, favoring cooperative education programs. This differential is a marginal statistically significant difference.

On the basis of cost per student hour there was a differential of about \$8, favoring noncooperative education programs. This difference is not statistically significant; thus,

our overall conclusion, based on this initial study, is that there is no obvious difference of the cost of providing either cooperative vocational education programs of those without a cooperative component. (pp. 5-6)

Moore (1976) reported a study done in four school districts in southern California. The study included 10,000 students in a consortium working and learning two to four hours each day in places of business. They figured the cost averaged around \$50 per student and they perceived that long-range costs were expected to become less. Superintendent Ross, responsible for the program, believed that, with capital planning, staffing for such work study programs need not cost more than a typical academic program.

An extensive study was reported by Lewis et al. (1976). The purpose of this study was to examine the cost-effectiveness of school-supervised work programs. Data for this study were collected through thirty-three high schools and fifteen school districts in the eastern half of the United States--2,854 students who enrolled in these programs during April and May of 1975, plus 2,245 students in the classes of 1972, 1973, and 1974.

They also conducted a representative study of employers. They looked at three groups of students:

1. Those involved in school-supervised work experience programs (cooperative education).
2. Those involved in jobs which were not supervised by the school.
3. Those who had neither supervised inschool nor work experience, but were involved in inschool education.

They found that supervised work experience programs were more expensive. The added cost for a student was about \$125. Why the extra costs?

The answer appears to lie in the extra cost for school supervision and job placement--primarily the cost of the coordinator's salary and travel--and the fact that the other major inschool cost--teacher salaries--is the same whether the student is on the job or in the shop. (p. 4)

Data from both the school and the student indicated that the average cooperative education student spent almost as much time receiving classroom instruction as the noncooperative education student. The information this study was able to gather did not indicate that any savings accrued to the school from job placements of their current students. Thus, their justification for the statement of the extra cost--\$125 per student--was that the cooperative education program seemed to be an add-on. Nothing was eliminated when the cooperative education program was initiated. Thus, it seems to be added to a program instead of being substituted for other educational activities.

In a program developed to eliminate dropouts, Welsimon (1972) found that this program cost an average of \$181 per student over and above normal or regular training costs for regular students. Strömsdorfer and Fackler (1973), in an overview on the costs of cooperative vocational education reporting usable data gathered from employers, stated that the employer's cash and implicit cost outlays appeared to approach about \$300 per student. In addition, the communities spent from one-third to one-half more in classroom instruction on the cooperative student than on the noncooperative student. This made cooperative education appear expensive indeed. However, the authors contended that this was not quite the proper way to look at the cost picture. They suggested that one must look at the life cycle of investment costs rather than short-term costs. They felt, after weighing all the extra costs against the benefits, that there seemed to be little difference in the two programs.

Evans (1971) looked at costs from still a different perspective. He stated:

studies of the economics of vocational education show a higher rate of return on investment in cooperative education than other types of vocational education. Capital costs for the school are lower; and since the student is receiving wages for the on-the-job portion of the program, the costs of the individual are lower. (p. 194)

He further stated:

Cooperative work education programs need lower capital investment in space and equipment, than does instruction in the school laboratory. CWE indeed, requires little more equipment or space in the school than is called for in a first rate classroom instruction in any subject. Highly

specialized equipment which may quickly become obsolete cannot be afforded in a typical school vocational program, but will be provided on the job because of production demands. (p. 197)

Lewis et al. (1976) suggested that one of the potential costs to the individual student who participates in the work experience is less time for other activities, particularly other school activities. However, they found that this did not appear to be a special problem with the supervised work experience students in the study. They did participate less than other students in some activities like interscholastic sports. With the cooperative education student, however, this appeared to be more than compensated for by the membership in vocational clubs such as Vocational Industrial Clubs of America and Future Business Leaders of America. We must agree that there are costs identified with cooperative education and that the costs must be considered from many different perspectives.

BENEFITS

As in the costs, when looking at the benefits, we must look further than a monetary point-of-view. Many nonmonetary benefits from cooperative education are listed by Middleton (1975). In evaluating work experience programs in the Vancouver British Columbia Secondary School Systems, he found not only did the program create job skills within the students, but it helped students become self-directed, confident, and mature adults.

A study reported by both the National Association of Secondary School Principals (1973) and Frankel (1973) found many benefits. This study evaluated fifty work education programs drawn from over 500 representative programs throughout the United States.

Frankel (1973) reported significant findings on this type of program. According to the findings, specific occupational training programs (cooperative vocational education programs for the most part) appeared to be generating the most enthusiasm among students, employers, and school officials because they were meeting the expressed needs and objectives of all three groups. Students felt that cooperative education programs were providing them with valuable job training. Employers felt they were getting their money's worth out of their students' work and were contributing to their occupations. School administrators and teachers were satisfied with learning and job placement after the training period. Specifically, it was found that cooperative education programs were more likely than any other type of program to:

1. Provide students with job-related instruction in school.
2. Have a follow-up program for its graduates..
3. Have an advisory committee.
4. Provide job placement service.
5. Have a higher rate of job related placements.
6. Provide students with jobs that offered formal on-the-job training.
7. Help students in deciding on an occupation.
8. Provide students with a job that would fit their career plan.
9. Provide students with jobs with a high level of responsibility.
10. Provide students with jobs that would afford a high degree of satisfaction.

The National Association of Secondary School Principals (NASSP) (1973) found that pay factors played an important role in determining how the employers in the study sample viewed their educational program. When students were paid less than the regular employees, employers were significantly more likely to rate the programs' overall quality as excellent. From the student's point of view, in contrast, pay played a minor or somewhat ambiguous role: students who were paid for their work were slightly, but not significantly, more satisfied with their jobs than students who were not paid. But, of those who were paid, attitudes toward school were more likely to improve after joining the program. One value judgment as to the worth or benefit of a program, of course, is the total overall cost. From an employers point-of-view, the less it costs with the same outcome, the better it must be. From a student point-of-view, though money is important at their stage of life it ranks with less importance than other criteria such as satisfaction with the job, self-concept, and an instant gratification and reward system that the work-a-day world provides.

On comparing secondary with postsecondary programs, the National Association of Secondary School Principals (NASSP) (1973) stated:

Post-secondary programs are more effective than those at the secondary level in nearly all aspects; specifically, they rated higher on (1) job-related instruction, (2) job-related placements; (3) student follow-up for helping students decide on an occupation, and (4) providing them with jobs that fit into their career plans, with higher responsibility ratings, and jobs in which they are highly satisfied. . . . Two exceptions to this sweeping superiority of post-secondary programs over secondary ones were

found. However, (1) employers rated secondary school students higher than those from post-secondary educational institutions, and (2) surprisingly, secondary school students earned slightly more than do the post-secondary school student workers. (p. 4)

The secondary and postsecondary groups differed little in terms of satisfaction with their job. The most important influences on a student's job satisfaction was how well he or she was rated by the employer and the fact that the job afforded him or her responsibility. One of (NASSP) policy recommendations was to encourage unions to participate actively in the work education programs.

Lewis et al. (1976), in reporting benefits or effectiveness of the three approaches, stated:

The results of the analysis of the data collected in the present study suggest that students in school-supervised jobs, either cooperative or work study, (but especially cooperative) have benefited more in terms of career development and planning, satisfaction in school, and drop-out prevention, than other students. They do not appear to bear any appreciable individual costs as a result of their participation in such programs. In addition, although cooperative education students do not obtain higher-paying post-graduation jobs than other students, they acquire jobs more quickly after being graduated from high school, and appear to have more "marketable" skills. (pp. 25-26)

In general, the results of the study support the contention that graduates' job qualifications are enhanced by cooperative work experience.

On an individual basis, students did not incur any appreciable costs while gaining this advantage. Lewis' study showed that people in cooperative education transfer their skills better than the other comparative groups studied. That is, more on-the-job transfer of in-school learning occurs in the case of cooperative education students.

Cooperative education students were more likely to obtain jobs which were the same or highly related to the occupational areas studied. Lewis et al. (1976) found, in looking at job training

readiness, that only about half of the students in vocational education entered the fields for which they were trained. This was enhanced somewhat by those going into cooperative vocational education. Lewis felt that the results suggested that students who entered vocational programs had not completely committed themselves to career choice, but instead were engaged in occupational exploration. He pointed to a high proportion of male students in distributive education, who did not plan to seek related jobs, as a prime example of this.

Lewis et al. stated that if this observation were valid,

then vocational and cooperative education should be evaluated as much for their contributions to the current development of the student as investments which will yield future pay-offs in the labor market. (p. 9)

Viewed in the developmental perspective, work experience programs are clearly affected. The study found,

Participation in cooperative programs does seem to enhance the student's "employability" and to ease the transition from school to work; work study programs do seem to deter potential drop-outs. (p. 10)

Lewis et al. (1976), in a check on the amount of unemployment former students had experienced since graduation, discovered it significant that a high proportion of both male and female cooperative education students had never been unemployed.

Totally, the former cooperative education students received less unemployment during the time studied. It was interesting to note that the wage difference was not found, despite the fact that most of the evidence indicated that work experience students, especially the cooperative education students, had more marketable skills. This was concluded from the sample of out-of-school follow-ups of former students, the males being in the trade and industrial area and the females in office occupations.

The Lewis et al. (1976) study suggested that,

It is possible that cooperative education students sacrifice current wages in order to gain the ability to earn higher future wages. . . . Because the cooperative education

students work longer, and, with some minor exceptions, because wage rates were comparable across the three categories. One would expect the total earnings are greater among cooperative education students. This proved to be the case for both males and females. (p. 86)

In the summary of the effects of cooperative education in post-high school employment, Lewis et al. (1976) stated the following hypothesis:

(1) cooperative education enhances marketable job skills, (2) cooperative education students can acquire better jobs, (3) cooperative education students can find jobs within a shorter period of time than noncooperative education students, and (4) finally, the cooperative education students do not even seem to suffer any employment related costs while gaining additional experience. (p. 86)

He also found that cooperative education students were more likely to obtain jobs which were the same or highly related to the occupational areas they studied.

The Lewis study looked at the employer perspective on cooperative programs through a small pilot study of sixty-eight firms, conducted by direct mail. The results of this pilot study suggested that the cooperative education program offered many advantages to the employers, and these advantages tended to outweigh the disadvantages some employers felt associated with hiring students. Employers found that cooperative education students were less likely to leave their jobs or be absent from work. They felt that by participating in cooperative education programs, they were also reducing employer recruitment and screening costs.

About half the students in the cooperative education programs stayed with the employer after graduation, but received less pay than regular employees. Possible explanations given were a lower starting point in the work force and the fact that cooperative education students were trading higher wages for on-the-job training. It was found that cooperative education students were more likely to receive such training than the comparison group. The authors felt that this might have a future financial advantage. The study also found that firms that had more experience with cooperative education employees tended to pay them higher wages.

The results of the employer survey evaluating cooperative employees with regular employees, as stated by Lewis et al. (1976), were:

The major finding presented in this chapter is that cooperative students are good 'buys' to employers, i.e., the major impetus for hiring cooperative education students is probably economic rather than altruistic. Cooperative and regular employees were both reported to possess specific performance and cost advantages with no clear-cut indication of superiority of either. While regular employees demonstrated superior technical and communication skills, the cooperative employees were seen to be more dependable and cooperative. (p. 153)

As a whole, employers tend to rank the cost saving advantages of hiring cooperative education students more highly than possible public relations benefits. In particular, preparation of employers in cooperative education programs was viewed as a valuable tool for recruiting new employees and for evaluating potential regular employees. The public relations benefit of participating in such a program, were, however, ranked more highly by branch plants of corporations than by independent plants. (p. 154)

In a more sophisticated analysis of cooperative employers, Lewis et al. thought there were several advantages in hiring cooperative students related to cost-savings that accrued to the firm in training the cooperative students as regular employees. They found that cooperative education programs appeared to more than justify themselves to the employer on the cost grounds. Lewis et al. suggested that for the student, from a monetary point of view, the investment in the work experience aspects of a cooperative education program did not justify its expense within the first two years after graduation. However, other measures indicated that the program achieved other educational developments and attitudinal objectives which might make the long-run investment worthwhile.

On post-high school plans, the cooperative education students were more likely to hold jobs than the comparison group, and the former cooperative education students were more likely to receive on-the-job training from their employers than the comparison group.

In looking at occupational knowledge, Lewis stated,

Holding a job while in high school, either school-supervised or part-time, was associated with higher scores on a test of occupational knowledge. The cooperative education scores were significantly higher than the work study or part-time students, both of whom had scores higher than students without jobs. (p. 5)

These results were found even when the influence of differences in personal characteristics, such as sex, race, and I.Q., were held constant. School-supervised jobs were more likely to be related to courses than part-time jobs.

Lewis stated:

Despite the inherent lack of precision in the measures used, the overall conclusion about work experience programs must be positive. It is highly likely that if more precise measures were possible, the benefits which were found to derive from school-supervised work experience would be even greater. (p. 101)

Slick-Welch (1974) found much to support Lewis' statements. They surveyed 2,265 graduates from the class of 1972, in three types of vocational programs, to determine their degree of satisfaction with their high school program, their jobs, and to obtain a description of their progress in the world of work. This survey was taken in the spring of 1974, approximately two years after this class had graduated from the vocational programs in their respective schools. They looked at seven different labor market areas across the state of Pennsylvania. The three types of programs were: (1) total inschool vocational training, no cooperative work experience (INSKL), (2) inschool vocational training followed by a cooperative work experience the same year (capstone), and (3) total cooperative work experience with school-programmed related theory, and no inschool vocational training (diversified occupations - DO).

With the permission of the graduates, their employers were also surveyed. The employer questionnaire dealt with their reasons for hiring these people and their satisfaction with the three types of program graduates.

Slick-Welch found that:

Graduates of the vocational programs in the Pennsylvania secondary schools (1972) appeared to have little or no difficulty entering the world-of-work. This seems particularly true of those graduates with skills acquired in a cooperative vocational education program. For many of the cooperative programs graduates (70 percent) the first full-time job was acquired after leaving high school and was, in many cases, an outgrowth of their training.

Graduates of the Capstone program indicated a greater ability to find work quickly and in the areas related to the field of interest than the graduates of other programs surveyed. It has long been known that experience is a great teacher--perhaps it is the preferred teacher.

Skills acquired in vocational education programs do not go unrewarded. This is particularly true of the graduates of cooperative programs. The graduates of the Capstone program reported weekly earnings of \$139, with the diversified occupations program graduates earning \$136, and the total inschool program graduates, \$117. The higher salaries and the great ability to find work related to the area of interest seems to be reflected in the graduate's degree of satisfaction, both with the job and their vocational programs. (p. 49)

Diversified occupations and capstone students had nearly twice the probability of being employed before graduating from high school than did the total inschool group, but of those students in the capstone program who did not have jobs after graduation, 50 percent were able to obtain a first job within a two-week period following graduation.

They also found that the capstone and diversified occupations students had fewer job changes in the two-year period since graduation. They found the unemployment picture very promising for total vocational education programs. The people who had no cooperative experience had a four percent unemployment rate; the capstone people had a two percent unemployment rate. The diversified occupations people had a nine percent unemployment rate. The authors speculated that those in the

diversified occupations training program might not find local employment in their area of interest. An example of this sort of situation might be a student who was trained to be a very competent watch repairman by the only watchmaker in town.

Employers of the capstone and diversified occupations graduates rated their employees very highly and felt they demonstrated a high degree of skill when hired. They agreed that the cooperative education students could work with less supervision, were more cooperative, and progressed faster on the job than did the graduates of the total inschool program with no cooperative aspects.

Slick-Welch (1974) further stated:

The employer opinion of the vocational program graduates in his employ is perhaps best summed by the responses to Question 4. All (100 percent) of the DO program graduates were rated above average in their overall job competence, effectiveness and efficiency. Eighty-five percent of the capstone graduates and 79 percent of the total inschool vocational program graduates were rated above average in those areas of their employ.

The findings of this study indicate that the graduates of cooperative vocational programs have a better preparation for the world of work than those having only the inschool vocational training. This is verified by the opinion of the graduates, the opinion of the employers, and the salary paid to respective program graduates. (p. 40)

Slick (1975), in an effort to determine why the Slick-Welch study reported such positive results, collected additional data. He found, in looking at the grade point averages of the students enrolled in these curriculums that when overall grade point averages of the graduates of the three curriculum modes were compared, there was no significant difference found between the groups at a .05 level. This dispelled the theory that only the best students were selected for the cooperative education programs.

Another finding was the relation between the grade point average students received in school and the salary that they made two years after graduation. Slick found that there was no significant correlation between grade point average in school and salary two years after graduation.

When looking into the reasons why there was no significant difference between grade point average and salaries, Slick discovered that the students who had the high grade point averages tended to enter occupations which provided on-the-job training at apprentice levels. Those with lower grade point averages went into assembly line jobs in which starting salaries were much higher than apprenticeship positions. Thus, it would seem that in long-term gains, the cooperative education student or the student who had a high grade point average would eventually earn more money over time than the person who took the higher paid job for immediate financial reward, but perhaps lesser long-term gains.

In looking at the differences between salaries of graduates of the three curriculum modes, Slick found that there was no significant difference between the salaries of the INSKL, capstone, or diversified occupations graduates whose employment was related to their fields of study. However, when those groups of graduates working in areas not related to their field of study were tested, there was a significant difference between the salaries of the inschool and the capstone graduates, with the capstone graduates earning significantly more. He further explained this by reviewing comments made by the employers which suggested that in general the capstone graduates had a superior indoctrination to the world of work.

In further looking at the comments made by employers, it was indicated that although grades were of interest, other factors, such as attitudes, personality, and ability to create a favorable impression in a job interview were of greater importance when selecting people for employment.

Still further supporting the results of the Lewis et al. (1976) and the Slick-Welch (1974) studies, Molner et al. (1973) found differences between cooperative education and noncooperative education graduates as follows:

1. Graduates of cooperative education programs enter the labor market with a lower entry wage rate that increased more rapidly, but graduates of noncooperative education programs still earn a higher rate after a follow-up period of thirteen to eighteen months. It must be remembered that this is probably due more to the occupational areas' wealth and the labor market conditions, than the educational experience.
2. Graduates of noncooperative programs remain with their longest full-time employers slightly more than one month longer than the graduates of cooperative programs--based on a thirteen to

eighteen-month follow-up period. This difference is significant in a statistical sense, but not in a practical sense.

3. Graduates of cooperative programs tend to find full-time employment slightly faster than noncooperative counterparts, but the difference is only 1.5 weeks and not a very practical difference. In an employer survey during this same study, their overall conclusions, based on the employer's survey, are that employers tend to favor graduates of cooperative programs.

Another finding by Molnar et al. (1973) was that there appeared to be little difficulty in finding employment for on-the-job training in cooperative programs. A substantial percentage of cooperative education graduates, forty-six, were able to continue full-time employment with their cooperative employer. One of the findings was that substantially more graduates of the cooperative programs were female, while more graduates of the noncooperative programs were male. This was due to the occupations included in the samples for cooperative and noncooperative education programs.

A study by Mahoney (1972) looked at other benefits. His study sought to identify and categorize responses in more than 16,000 high school juniors to determine the impact of student employment on the student, the school, and the community. The students who were employed were found to be a potential force on the local labor market in terms of jobs held, hours worked, money earned, and potential for money saved and spent in the local economy. It was found that:

1. The employed student usually initiated the action necessary in seeking, applying for, accepting, and retaining employment.
2. Employed students were meeting many goals of career exploration by directly experiencing the "world-of-work."
3. The working student was involved in many human relationships which added to his personal growth and development.
4. The average working student experienced the responsibility of money handling, budget making, savings, and spending.

One of the recommendations of this study was that the students receive academic credit for any school-sponsored work experience program in which they were involved, and that the work experience be officially noted on their transcript.

Stromsdorfer and Fackley (1973) conducted a case study examining the economic institutional impact of cooperative education on the employment, earnings, and educational performance of the 1966-1970 graduating class at Patterson High School, Dayton, Ohio. They compared the cooperative group with the noncooperative group. The groups compared included general students, academic students, vocational students, and cooperative students. In comparing noncooperative with cooperative students in a chapter dealing with job satisfaction and satisfaction with school, it was found that cooperative students were generally much happier with their high school education than were the noncooperative students--cooperative students were generally more content with their jobs and thus might be more productive, at least in the first several years following high school, than their noncooperative counterparts. In discussing wages, they stated:

With respect to wage rate and earnings of the first and last job held since leaving high school, we find that the advantages which the cooperative students had on the first job tended to diminish on the last job. In particular, while cooperative students had a positive benefit on the first job, these benefits disappear vis-a-vis the vocational curriculum. (p. 247)

LABOR UNION

The National Association of Secondary School Principals (1973), in their summary, suggested that unions become more involved with the cooperative education program. They felt that if unions became more involved, more advantages and benefits could go to the student as well as the program. Their study found that very few programs had unions actively participating. But, in these programs, nearly all of those union representatives were as positive toward the program as were the participating employers. They found that programs with active union participation benefited in several ways:

1. In permanent job placement after graduation.
2. In students being granted automatic acceptance in the union apprenticeship programs, with time and work education programs sometimes being credited toward the apprenticeship.
3. By students being allowed, many times, to become full-fledged voting members of the local union while still in school.

Sessions (1973), in addressing the issue, "Facts versus Myth, Organized Labor's Role in Job Training," stated that a number of union-sponsored training programs required a great deal of on-the-job training. He identified the school cafeteria employees' union in Philadelphia as developing an on-the-job training plan to help entry-level workers, as well as experienced workers, to upgrade their skills and move into better jobs. He pointed to the Seafarer's International Union, with its own Harry Lundeborg School at Piney Point, Maryland, where the union provided intensive training in the skills of seamanship, as an example of union's involvement with training.

At the National Conference on Cooperative Education (1973), Turner, General Secretary-Treasurer of the International Union of Operating Engineers, AFL-CIO, reviewed four major aspects of cooperative vocational education which were of concern to unions. They were:

One, the moment you start placing an educational program and it involves putting a student on a job, you are dealing with something about which the unions are very much concerned. Unions need to be brought in from the beginning of this educational planning. (p. 66)

The second issue is a point which may prove to be a bit abrasive, but abrasive or not, it must be said. The consequence of putting students in jobs must mean that they are paid for their work. (p. 65)

Wage rates are sometimes a sensitive subject between a union, employers, and the government.

I say again, that organized labor believes in cooperative education and the general level of employment. Clearly this method of education will only work in a full employment economy. (p. 66)

The fourth and last concern is that of career education. It is hoped that career education did not turn into another job training program. Education must be concerned with the whole person. It must prepare persons to be intelligent consumers, a responsible part of a family unit, and an informed and effective member of a community, a nation, and the world. There is more to education than simply acquiring sufficient skills to hold a job. (p. 66)

Though not reported in the literature to date, there is one program which showed a great deal of dollars and cents values of cooperative vocational education. The program is at the Jefferson-Dubois Area Vocational Technical School at Reynoldsville, Pennsylvania. In 1973, the small (450 student body), full-time (vocational and academic) school had to turn away more students than they could accept because of space requirements. Through the use of cooperative education, both capstone and diversified occupations, the director was able to nearly double the vocational offerings in his service area. He did this by mandating that all students who had reached maximum benefit from in-school training be capstone students. Their school was built on individualized instruction modules, thus the capstoning could come any time during the school year. As soon as one student was put into cooperative education from the in-school vocational program, a new student from one of the sponsoring schools was added to the school's enrollment. The capstone student received his related theory training on a once-a-week or once-every-other-week basis in the vocational shop area in which he or she was released. This, being a three-year program, freed nearly one-third of the in-school work spaces and allowed for expansion in the numbers of students that could be handled through the area vocational technical school.

In each of the several sponsoring schools, a diversified occupations program was begun. This was for students who wanted training in areas not offered at the vocational technical school, as well as areas in which there were no openings. One unique aspect was that all the area vocational technical school teachers and many of the vocational technical school academic teachers, as well as several home school instructors and guidance counselors, were provided extensive inservice training on cooperative education processes. Many of them reached through this process received their cooperative education certification. Through this process they developed not only a uniform philosophy, but also uniform program materials. Each instructor, vocational and academic, could assist the cooperative people in doing the various placement and supervisory activities. Though no new facilities were built and only about six to eight additional staff were hired, they were able to nearly double their student population. This savings could be translated within a very few years into millions of dollars. At the same time, there was improved placement of people in the areas for which they trained.

At the postsecondary level as well, there were studies reported in the literature which suggested benefits. Hayes and Travis (1976) had been engaged for two years to study the employer cost-benefit experience in postsecondary cooperative education programs. They studied seventy-five prospective employers from a wide variety of industries located in twenty-nine states in all geographic regions of the nation and employed a combined total of 25,000 cooperative education students.

A major concern of Hayes and Travis was the costs and yields to employers in their recruitment of students. They included cooperative education employees, both before and after graduation from college, as well as recent college graduates who had not been cooperative student employees. This article was concerned with employer experience in terms of costs and yields during the year ending June 30, 1974.

Their findings showed that, of the sixty employers who evaluated the experience of recruiting new cooperative education students, 77 percent rated the experience as excellent, good, or very good. They found the efficiency ratio--that is, job offers made as a percentage of the number of candidates interviewed--was almost nine times higher for cooperative education candidates than for recent college graduates. The acceptance ratio--job offers accepted as a percentage of offers made--was almost twice as high for cooperative education candidates as recent college graduates. The recruiting yield or number of persons hired as a percentage of the number of candidates interviewed was nearly thirteen times higher for cooperative education candidates than for the recent college graduates. Costs of recruiting cooperative education candidates were from 30 to 95 percent less than the cost of recruiting recent college graduates. Of the cooperative education student employees who had graduated from college, almost two-thirds received offers of regular career employment from their cooperative employers. About four-fifths accepted the offer.

In conclusion, they stated:

It is clear that cooperative education presents employers with excellent opportunities to decrease recruitment costs and increase recruitment yield. Cooperative education clearly is an efficient and cost effective approach to the recruitment of professional and pre-professional employees. (p. 31)

SUMMARY

As you see costs and benefits are not always counted in monetary terms. It is obvious that there are many benefits to students other than monetary benefits--such as a wise career choice, job satisfaction, school satisfaction, as well as a positive adjustment to the world of work. Employers benefit heavily in the area of recruiting future employees as well as becoming an integral part of the school system and receiving some direct returns for their tax dollar.

There seems to be some conflicting results in the studies reported. Yet, in each case, the researcher felt that the benefit of cooperative education outweighed its costs. The studies reported in this section, for the most part, covered a two-year time span. However, all indications are that if longer periods were studied, further significant results would be in favor of the cooperative education student as well as their employers. Yet, there is little longitudinal data available to document this statement.

CONCERNS AND PROBLEMS OF COOPERATIVE EDUCATION

Much of the research contained in the literature was conducted and reported by people other than cooperative vocational education coordinators or administrators. Yet, the majority of this research suggests positive results. This should indicate unbiased reporting and objectivity.

To provide a balance in this paper, it is only fitting that the negative or problem areas are reported as well as the positive results. Even though these problem areas seem to be in a definite minority, nevertheless, if cooperative education is to improve and become a more viable approach in vocational education, then we must look at and give ample concern to that which needs consideration or improvement.

Evans (1971) brought attention to one problem. He stated:

Cooperative work education has often been opposed by teachers who are accustomed to teaching in school laboratory programs and who are afraid that development of the CWE will rob them of their students. Some schools have overcome this by restricting CWE to occupations that are not taught in the school laboratories.
(p. 199)

As future school populations shrink, as most indicators suggest, this will be a problem with the academic faculty as well. Evans (1971) offered another area for concern.

Traditional vocational education programs have suffered from an attempt to turn out a year's supply of new full-time employees during a single

month. . . .CWE has suffered for trying to find suitable training stations for all CWE students in a single month. (September) (p. 199)

We will have to consider alternative approaches as cooperative vocational education expands. One alternative approach that might be used is one similar to that used by the Jefferson County-DuBois Area Vocational Technical School, as mentioned earlier. In this approach, students are placed in cooperative education throughout the entire school year, not just for a specific time or period of the school year.

The National Association of Secondary School Principals (1973), in examining fifty work experience programs throughout the United States, reported negative comments of cooperative programs. They found that cooperative programs were most likely to discriminate against students on the basis of student attitude, less effective in reducing student absenteeism, more likely to interfere with a student's other activities, both in school and out, more likely to segregate job placement by sex, and more likely to restrict their offerings to students with rather conforming, middle-class behaviors. They made the following policy statement to discourage discrimination on the basis of student attitude:

This study also was concerned with determining the extent to which work education programs were fostering discriminatory practices. While no programs would admit to overt discrimination, subtler forms were rather common. Thus, while the majority of the programs were integrated, only 30 percent of the employers interviewed had been assigned students of more than one race, and only 39 percent of them had been assigned students of both sexes. (p. 5)

Frankel (1973), reporting on the same study, concluded that cooperative education programs, compared with other types of work education programs, were more likely to discriminate against students on the basis of student's attitudes. They were less effective in reducing student absenteeism and, because they place students in a more reasonable job, they were more likely to interfere with the student's other activities, such as school work, dating, sports, and so forth. Cooperative programs were more likely than other types to restrict their programs to students with rather conforming middle class behaviors. At the secondary level, they were also more likely to segregate their job placement by sex, with only men or only women assigned to a specific employer.

A study by Ullery (1971) reported on criteria for selection and who was in cooperative education programs.

A major conclusion in the study is that the characteristics of the student excluded overtly or covertly from school systems' cooperative work education programs strongly suggested that many students were denied admission to the CWE on the basis of such factors as 1) socioeconomic class, 2) race, 3) age, 4) sex, 5) dropout proneness, 6) low school achievement, 7) absenteeism, and 8) similarly or related factors. (abstract)

Ullery also noted that the students excluded from the CWE programs were those who most needed the program.

These studies--the National Association of Secondary School Principals (1973), Frankel (1973), and Ullery (1971)--strongly suggested an area of enormous concern. These findings are completely inconsistent with the intent of the 1976 Vocational Educational Amendments. Hopefully, these problems are in a relatively few cases; still, concerned vocational educators must give this consideration.

Many educators have suggested students go into cooperative education for monetary reasons or just to get out of school. Lewis et al. (1976) found some evidence of this in identifying a large number of students, particularly males, in distributive education who did not enter the occupation following graduation. They commented:

If distributive education has a high enrollment, coupled with low numbers who plan to continue in similar work after completing their education, and if a student's motive for entering a cooperative education program is not to learn a particular skill, but to obtain part-time employment, distributive education would be the best choice. (p. 114)

This problem of questionable motivation for entering cooperative education is also mentioned in the literature at the postsecondary level. Helmstedter et al. (1976) reported on a survey conducted in 1975 to appraise Bakersfield College's work experience program. They found:

Most faculty and a significant minority of instructors/coordinators and students saw the program as primarily attracting students seeking easy units and veterans' benefits. Considering

that 84.5 percent of the work experience students are veterans, it is impossible to unequivocally deny this interpretation. However, those who are familiar with the program believe it is achieving its purpose of improving job skills and relationships. (Abstract)

It is interesting that a significant *minority* of instructors and students suggested that this was the purpose, rather than stating positively that the majority did not see it this way.

Perhaps some of the problems with the cooperative education approach can be explained in the findings of the National Association of Secondary School Principals (1973). They found that:

approximately 70 percent of the programs studied had full-time coordinators or administrators, whose capabilities varied greatly. Most were knowledgeable in the vocational field for which they were responsible, but differed widely in such regards as their ability to safeguard students from exploitation by employers or from working in unsafe or unpleasant working situations, their management skills, and their knowledge of vocational counseling techniques. (p. 8)

They also developed a policy statement which was to suggest the establishment of an internship program for work experience coordinators. If the cooperative vocational education coordinator provided the major emphasis and direction of cooperative vocational education programs, as previously recorded in this paper by Evans (1971), then perhaps more emphasis should be placed on the teacher education programs that prepare coordinators of these programs at both the secondary and postsecondary levels.

Haltmeyer (1975) reported on the Soviet attempt to connect school with life as a result of Krushchev's call for increased practical training. This attempt lasted until 1964 when it was stopped. The failure of this approach was due to the process they used. The students had to spend two days a week in the field working and three and one-half days in school. The on-the-job training was in factories, collective farms, and other places of practical assignments connected with their academic interests. Reasons for failure were:

1. Field experience turned out to be too costly and time consuming in terms of transportation and coordination.

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2. Field center personnel were indifferent to the groups of students and gave them unimportant jobs to perform.
 3. Students often did nothing during the field experience days.
 4. Field experience personnel taught their own ideas, which often differed from those of the educators.
 5. The students became over-loaded since the practical training, added to the full schedule of academic work meant that academic work studies suffered.
 6. Student day school rate dropped, basically because of the greater responsibility placed upon the students.

This list strongly suggests that programs can fail if proper safeguards are not built into the system.

The authors went on to say that:

there is no present evidence to show that massive practical field assignments would not work in this country. (p. 604)

This statement should be of concern to vocational educators and administrators. There is a national trend for field-based or experiential education that is neither directed nor supervised. This approach has been labeled "work release," "early release," "honor systems," "field-based," and "field experience," to name a few. This approach allows the student who has a study hall at the beginning or end of school, to report to work, rather than to school. It also allows a student who has acquired enough "Carnegie Units" or course work to graduate, to take an abbreviated schedule. If the student can get an "ok" from his parents and assurance from an employer that the student will not be out in the streets, the school will release the student to go to work. There is a great deal of pressure--students, parents, and administrators--to initiate this type of approach. With the emphasis educators currently place on competency-based education, an understandable rationale is provided for this approach. Without program supervision or guidance, little education will take place. The risk for exploitation, as well as safety hazard problems, will be multiplied.

BRIDGING THE GAP

Research throughout this text has suggested that the cooperative education approach be utilized to eliminate the gap between school and the work environment. To do this successfully, it must be determined what employers are seeking when hiring new employees. Lee (1976), suggested:

Keywords that employers often use in describing workers include "initiative," "attitude," "loyalty," "enthusiasm," "dependability," "ability to listen and to carry out instruction," "cheerfulness," "reliability," and a "willingness to learn." Youths who do not have the positive traits associated with these terms will often have difficulty in successful work entry. (p. 189)

Claurens (1972) provided additional insight. She stated:

Employers seldom express dissatisfaction with occupational skills beginning workers bring to their jobs, but they are forever reminding vocational teachers they must turn out beginning workers who have "good" attitudes and the motivation to work. . . . The vocational educator may be very confident in teaching the skills of an occupation or the 'how to's' in his vocational field but have great difficulty in developing the kinds of attitudes and values employers expect when young workers begin their first jobs. (p. 130)

One viable inschool delivery system is the use of vocational student organizations. Most of the text on cooperative vocational education that has emerged within the past two years has had a very heavy emphasis on involving youth clubs in the total curriculum. Through youth clubs, many of the traits needed by working people can be learned. Johnson (1971) stated that:

Youth organization programs give young people the one invaluable, absolutely essential ingredient to personal success: goals. And, through youth groups, students have needed experiences in cooperation, leadership, patriotism, pride, and service. The vocational youth movement is strong because it is workable and it is needed. It has meant a great

deal over the years to literally millions of young people. It is, truly, one of the strengths of vocational education in America. (p. 40).

What will motivate employers to participate in training programs? Drawbough (1977) provided some insight to this question.

The overall purpose of industrial training is to serve the firm or business in upgrading its human resources. (p. 27)

Industrial training is characterized as the kind of continuing education provided to adult employees who have some level of general education and an experiential base. . . . Corporations train employees for corporation profits; employees enroll in training to improve their own positions in life. (p. 27)

Most corporations prefer to do their own human resource development because it gives them an opportunity to include the philosophy, values, and behaviors demanded of corporate leadership. (p. 28)

Drawbough said human resource development was complex, costly, and could not be done in an irresponsible way. Business and industry must use a most efficient use of the training resources. He went on to say that:

the time is right for vocational education to assume the leadership required to establish such combined delivery systems. (p. 27)

Drawbough said one of these delivery systems was cooperative education:

Cooperative education has created a strong relationship between industry and the public education. . . . there are two reasons for employers being involved in cooperative education: One, is that the cooperative education students are eager to learn and they have work that needs to be done. The second is that cooperative education has, for a long time, been recognized by employers as a useful device for recruiting prominent personnel. Educationally, a cooperative program is

a relevant approach to teaching and learning, which also widens the bridge between school and work. (p. 28)

Lee (1976) stressed providing work experiences to students while they were in school, and he addressed the issue of cooperative education.

The work experience youths receive through cooperative vocational education develops specific job skills, enhances interpersonal relationship development; speeds up maturation, and provides the opportunity to refine life and career goals. Since pay is often involved, youth begin to develop an understanding of consumer economics and the reality of the responsibility associated with breaking away from the parental family. They also develop the competencies needed for work entry in their occupational choice. (p. 198)

The literature has contained reports dealing with the guidance role in job placement (Venn, 1973; Campbell, 1973; Wasil, 1974). Guidance people have been stretched to do more and more throughout the school. Walker (1975) stated:

It appears that most secondary schools do not have clearly defined job placement services to provide all students in ways and means of effectively obtaining employment. However, it seems evident that schools are now beginning to recognize that job placement is a critical element in the career development of youth, and that most schools are engaging in some sort of placement activities. (p. 36)

In determining the responsibility for job placement, Walker took a random sampling of 335 guidance counselors throughout the state of Pennsylvania. The majority of the guidance counselors suggested that, if there was no one specifically designated as a job placement person within the schools, the job should go to the cooperative vocational education coordinator. The majority of counselors felt they did not have the time or the background training to function in this capacity. Less than one in five suggested that it was their responsibility to handle job placement as a part of their ongoing activities.

On job placement responsibilities, Miller and Budke (1972) suggested:

A single job clearinghouse should be established to serve the entire school.

Job placement programs should be designed to serve all vocational students as they seek full-time employment.

Job placement functions must be coordinated with the instructional program staff.

Job placement director must develop a close working relationship with the employer.

Job placement function requires a person with unique qualifications.

Job placement program information and procedures must be closely coordinated with the cooperative vocational education program. Both programs involve contact and close working relationships with employers and, occasionally, a single job opening can be utilized by two or more cooperative work stations. Many times cooperative work stations can lead to full-time employment. These two programs are complementary and are not competitive; coordination between them is essential. (pp. 281-283)

White and Marley (1974) supported Miller and Budke. They suggested that an added strength to the cooperative placement of students was the interlocking of all work study programs under one unit.

When should students be released from formal inschool vocational training and be placed in a cooperative education program? The literature suggests that when the student is ready and can best benefit from such an approach, he or she should be placed in cooperative education. Does this mean that only the best students in the vocational program should be placed? Slick-Welch (1974) cautioned that this should not be a selective process of choosing only the best for the cooperative program. They suggested the expansion of cooperative programs to better serve all students. They felt that this would not be easy and undoubtedly would require a greater effort in placement and might, indeed, require some techniques not presently utilized in the average cooperative education program. If the increased efforts resulted in better training and better satisfied graduates and citizens, the rewards would exceed the efforts.

Another of the few studies that suggested the best time to recruit co-op vocational students was the Kapes and Pawlowski (1974) study. They reported, as part of a longitudinal Vocational Development Study, some insights into this question. They administered the Ohio Trade and Industrial Education Achievement Test (OTAT) to various grade levels of students in three-year vocational education programs. They stated that a major implication of the study was the finding that:

Since junior students out-performed senior students in comparison to national norms in all three samples, the nature of the senior year vocational shop experience should be closely examined. Perhaps senior students would benefit more from a cooperative vocational program than the traditional third year now being offered.
(p. viii)

Kapes and McQuay (1976) again, as a part of the longitudinal study, found similar results in comparing junior students in vocational program. In comparing students at the end of the junior year, those who had two years of vocational preparation showed little improvement over those who had only one year of inschool vocational preparation.

These studies suggested broad generalizations, but many factors should be considered on an individual student basis when the transition is made from a vocational inschool program to cooperative vocational education program. More research needs to be undertaken to answer the many questions regarding, "When should a student enroll in co-op?" and "In what type of program?" There are no easy answers to these questions, for more than likely, no two labor markets or school districts would use the same approach.

SUMMARY

The last policy statement by the National Association of Secondary School Principals (1973) was to increase funding of cooperative education programs and in this regard they stated:

this study presents strong evidence that cooperative education programs are highly successful; that they appear to be meeting their intended objectives and generating support from students, instructors, administrators, and employers. These programs appear able

to serve far larger numbers of students than are presently enrolled, and expansion of these programs would not be hindered by the lack of employer interest or by inability to accept additional student placements. (p. 9)

Most research suggests many benefits attributed to the cooperative education approach. The results of most of the research presently in the literature strongly suggest that cooperative education is a viable approach for preparing people for the world of work. Most of the research concluded that cooperative education should be expanded in scope and extended to more students. The National Association of Secondary School Principals has recommended increased funding because of the benefits accrued to this approach. Federal funds have increased at the postsecondary level, and the Education Amendments of 1976 have a potential for increased funds for cooperative education. The future looks very promising. But, the 1976 Amendments eliminated categorized funding for cooperative education. If cooperative education is to continue to grow and to take its place as a major bridge between the school and work environments, then it must constantly prove its value to society.

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